presently preferred embodiment of this invention. For example, a magnet **88** may be attached, or otherwise integrally embedded in more than one extending arm **84** of the impeller **38** for refining the counting precision of the feed impeller rotations.

FIGS. **3** and **4** illustrate yet other embodiments of the invention similar to the embodiments shown respectively in FIGS. **1** and **2**, with the exception that the base plate **40** has been omitted and the metering module lower element **36** has been replaced by a metering module lower element **36'** that consists essentially of the metering module lower wall **74** and which provides the functionality of the metering module lower element **36** and base plate **40** simultaneously.

Also, the impeller **38** has been replaced by another impeller **38'**. The impeller **38'** includes four arms **84'**, **85'** that each define a respective vane **140** extending between the metering module upper and lower elements **34** and **36'**. At least one of the arms **84'**, and typically 2 substantially opposed arms **84'** each define an obstructing element **142** extending in a substantially parallel and adjacent relationship relative to the metering module lower wall **74**, the obstructing element **142** substantially obstructing the output port **76'** over a predetermined range of impeller rotation angles. Over the remaining angles, the output ports **76'** are not obstructed. This configuration further prevents accidental movements of food through the metering module **14'** when the impeller **38'** is immobile if the impeller **38'** is suitably positioned.

In addition, in FIGS. **3** and **4**, a suspension element **146** is usable for selectively suspending the food dispensers **10"** and **10'"** shown, the suspension elements **146** being well-known in the art and being typically coupled to food carrying elements (not shown in the drawings), such as a conveyor, that conveys the food to numerous food dispensers **10"** and **10'"**. Yet furthermore, an access door **148** movable between an opened and a closed configuration using a cable **150** is usable for selectively allowing and preventing food moving through the suspension element **146** form entering the food receiving module **12**, such mechanisms also being well-known in the art.

Although the present invention has been described hereinabove by way of preferred embodiments thereof, it can be modified, without departing from the spirit and nature of the subject invention as defined in the appended claims.

What is claimed is:

1. A food dispenser for dispensing dry food, said food dispenser comprising:

a food receiving module for receiving said food;

a metering module for metering a quantity of said food to dispense, said metering module defining a metering module upper wall, a substantially opposed metering module lower wall and a metering module peripheral wall extending therebetween, said metering module upper wall defining two substantially opposed input ports operatively coupled to said food receiving module for receiving said food therefrom, and said metering module lower wall defining two substantially opposed output ports for releasing said food, said output ports being substantially offset from said input ports when said food dispenser is in an operative configuration for preventing a direct flow of said food between said input and output ports, said metering module including an impeller having at least one arm defining a vane, said impeller being rotatably mounted between said metering module upper and lower walls for rotation in a plane substantially parallel to said metering module lower wall, said metering module also including a power drive unit operatively coupled to said impeller for selectively rotating said impeller;

a discharge module operatively coupled to said output port for receiving said food from said output port and dispensing said food;

a directing structure mounted in said food receiving module, said directing structure defining a pair of directing planes diverging from each other, each of said directing plane being inclined toward a respective one of said input ports; and

an impeller rotation detector operatively coupled to said impeller for detecting a rotation of said impeller when said power drive unit is used to rotate said impeller, said impeller rotation detector including a magnet mounted to said impeller for joint rotation therewith and a magnetic field sensor fixed with respect to said metering module upper and lower walls, said magnetic field sensor being positioned to be substantially in register with said magnet when said impeller reaches a predetermined rotation angle;

wherein said metering module is configured and sized to discharge a predetermined quantity of said food when said impeller rotates over a predetermined rotation angle;

whereby said impeller rotation detector detects that said impeller has rotated over said predetermined rotation angle after said power drive unit has been energized to detect dispensing of said predetermined quantity of said food.

2. A food dispenser as defined in claim **1**, wherein said predetermined rotation angle is an integer number of impeller rotations.

3. A food dispenser as defined in claim **1**, wherein said controller issues an alarm if said predetermined rotation angle has not been reached within a predetermined power drive unit activation duration.

4. A food dispenser as defined in claim **1**, further comprising an auxiliary arm located in said food receiving module and operatively coupled to said impeller for joint rotation therewith.

5. A food dispenser for dispensing dry food, said food dispenser comprising:

a food receiving module for receiving said food;

a metering module for metering a quantity of said food to dispense, said metering module defining a metering module upper wall, a substantially opposed metering module lower wall and a metering module peripheral wall extending therebetween, said metering module upper wall defining an input port operatively coupled to said food receiving module for receiving said food therefrom, said metering module lower wall defining an output port for releasing said food, said output port being substantially offset from said input port when said food dispenser is in an operative configuration for preventing a direct flow of said food between said input and output ports, said metering module including an impeller having at least one arm defining a vane, said impeller being rotatably mounted between said metering module upper and lower walls for rotation in a plane substantially parallel to said metering module lower wall, said metering module also including a power drive unit operatively coupled to said impeller for selectively rotating said impeller;

a discharge module operatively coupled to said output port for receiving said food from said output port and dispensing said food;